WHAT IS CLAIMED IS:

1. A multilayer structure formed on a glass or plastic substrate for shading ultraviolet and infrared light, comprising:

two or three layers of Ag;

two or three layers of indium tin oxide (ITO); and

dielectric oxide layers ranging from two layers to four layers,

wherein at least two Ag layers are formed to be in contact with the ITO layer as an upward or downward layer.

2. The multilayer structure as recited in claim 1, wherein each dielectric oxide layer is made of a material which is selected from SiO_2, TiO_2, Al_2O_3, ZrO_2, Y_2O_3, and Ta_2O_5.

3. The multilayer structure as recited in claim 1, wherein the multilayer structure has seven (7) layers of:

a first layer of SiO_2 formed on the substrate, having a thickness of 162.79 nm and a refractive index of 1.462;

a second layer of ITO formed on the first layer, having a thickness of 38.14 nm and a refractive index of 2.058;

a third layer of TiO_2 formed on the second layer, having a thickness of 126.06 nm and a refractive index of 2.349;

a fourth layer of Ag formed on the third layer, having a thickness of 8.07 nm and a refractive index of 0.051;

a fifth layer of ITO formed on the fourth layer, having a thickness of 84.63 nm and a refractive index of 2.058

a sixth layer of Ag formed on the fifth layer, having a thickness of 14.38 nm and a refractive index of 0.051; and

a seventh layer of ITO formed on the sixth layer, having a thickness of 28.81 nm and a refractive index of 2.349.

4. The multilayer structure as recited in claim 1, wherein the multilayer structure has seven (7) layers of:

a first layer of Ag formed on the substrate, having a thickness of 5.79 nm and a refractive index of 0.051;

a second layer of Y_2O_3 formed on the first layer, having a thickness of 85.56 nm and a refractive index of 1.79581;

a third layer of Ag formed on the second layer, having a thickness of 9.39

nm and a refractive index of 0.051;

a fourth layer of ITO formed on the third layer, having a thickness of 71.91 nm and a refractive index of 2.058;

a fifth layer of Ag formed on the fourth layer, having a thickness of 12.82 nm and a refractive index of 0.051;

a sixth layer of ITO formed on the fifth layer, having a thickness of 36.14 nm and a refractive index of 2.058; and

a seventh layer of Y_2O_3 formed on the sixth layer, having a thickness of 4.08 nm and a refractive index of 1.79581.

5. The multilayer structure as recited in claim 1, wherein the multilayer structure has seven (7) layers of:

a first layer of Ag formed on the substrate, having a thickness of 5.6 nm and a refractive index of 0.051;

a second layer of ZrO_2 formed on the first layer, having a thickness of 63.84 nm and a refractive index of 2.06576;

a third layer of Ag formed on the second layer, having a thickness of 10.05 nm and a refractive index of 0.051;

a fourth layer of ITO formed on the third layer, having a thickness of 76.34 nm and a refractive index of 2.058;

a fifth layer of Ag formed on the fourth layer, having a thickness of 13.07 nm and a refractive index of 0.051;

a sixth layer of ITO formed on the fifth layer, having a thickness of 29.57 nm and a refractive index of 2.058; and

a seventh layer of ZrO_2 formed on the sixth layer, having a thickness of 9.58 nm and a refractive index of 2.06576.

6. The multilayer structure as recited in claim 1, wherein the multilayer structure has eight (8) layers of:

a first layer of SiO_2 formed on the substrate, having a thickness of 103.67 nm and a refractive index of 1.4618;

a second layer of ITO formed on the first layer, having a thickness of 34.18 nm and a refractive index of 2.058;

a third layer of Ag formed on the second layer, having a thickness of 10.76 nm and a refractive index of 0.051;

a fourth layer of Ta_2O_5 formed on the third layer, having a thickness of 72.4

nm and a refractive index of 2.14455;

a fifth layer of Ag formed on the fourth layer, having a thickness of 11.06 nm and a refractive index of 0.051;

a sixth layer of ITO formed on the fifth layer, having a thickness of 79.89 nm and a refractive index of 2.058;

a seventh layer of Ag formed on the sixth layer, having a thickness of 13.38 nm and a refractive index of 0.051; and

an eighth layer of Ta_2O_5 formed on the seventh layer, having a thickness of 35 nm and a refractive index of 2.14455.

7. The multilayer structure as recited in claim 1, wherein the multilayer structure has nine (9) layers of:

a first layer of SiO_2 formed on the substrate, having a thickness of 78.7 nm and a refractive index of 1.4618;

a second layer of ITO formed on the first layer, having a thickness of 40.64 nm and a refractive index of 2.058;

a third layer of Ag formed on the second layer, having a thickness of 12.42 nm and a refractive index of 0.051;

a fourth layer of Al_2O_3 formed on the third layer, having a thickness of 5 nm and a refractive index of 1.6726;

a fifth layer of ITO formed on the fourth layer, having a thickness of 78.88 nm and a refractive index of 2.058;

a sixth layer of Ag formed on the fifth layer, having a thickness of 15.28 nm and a refractive index of 0.051;

a seventh layer of Al_2O_3 formed on the sixth layer, having a thickness of 5 nm and a refractive index of 1.6726;

an eighth layer of ITO formed on the seventh layer, having a thickness of 36.91 nm and a refractive index of 2.058; and

a ninth layer of SiO_2 formed on the eighth layer, having a thickness of 3.58 nm and a refractive index of 1.4618.

8. The multilayer structure as recited in claim 1, wherein the multilayer structure has ten (10) layers of:

a first layer of SiO_2 formed on the substrate, having a thickness of 78.9 nm and a refractive index of 1.4618;

a second layer of ITO formed on the first layer, having a thickness of 40.77

nm and a refractive index of 2.058;

a third layer of Ag formed on the second layer, having a thickness of 10.65 nm and a refractive index of 0.051;

a fourth layer of Al_2O_3 formed on the third layer, having a thickness of 111.82 nm and a refractive index of 1.6726;

a fifth layer of Ag formed on the fourth layer, having a thickness of 11.79 nm and a refractive index of 0.051;

a sixth layer of ITO formed on the fifth layer, having a thickness of 74.88 nm and a refractive index of 2.058;

a seventh layer of Ag formed on the sixth layer, having a thickness of 12.29 nm and a refractive index of 0.051;

an eighth layer of Al_2O_3 formed on the seventh layer, having a thickness of 23.76 nm and a refractive index of 1.6726;

a ninth layer of ITO formed on the eighth layer, having a thickness of 12.57 nm and a refractive index of 2.058; and

a tenth layer of Al_2O_3 formed on the ninth layer, having a thickness of 16.21 nm and a refractive index of 1.6726.

9. An article comprising the structure of claim 1 applied to a surface of a glass or plastic substrate.

10. A window construction for ultraviolet and infrared shading comprising:

a substrate of glass or plastic material;

two or three layers of Ag;

two or three layers of indium tin oxide (ITO); and

dielectric oxide layers ranging from two layers to four layers,

wherein at least two Ag layers are formed to be in contact with the ITO layer as an upward or downward layer.

11. The window construction as recited in claim 10, wherein each dielectric oxide layer is made of a material which is selected from SiO_2, TiO_2, Al_2O_3, ZrO_2, Y_2O_3, and Ta_2O_5.

12. A safety glass comprising:

two transparent panes made of glass or plastic material;

a plastic sheet adhered between the two transparent panes, preventing the panes from shattering; and

an optical coating formed on at least one of the transparent panes against

the plastic sheet, for shading ultraviolet and infrared light, comprising:

two or three layers of Ag;

two or three layers of indium tin oxide (ITO); and

dielectric oxide layers ranging from two layers to four layers,

wherein at least two Ag layers are formed to be in contact with the ITO layer as an upward or downward layer.

13. The safety glass as recited in claim 12, wherein each dielectric oxide layer is made of a material which is selected from SiO_2, TiO_2, Al_2O_3, ZrO_2, Y_2O_3 and Ta_2O_5.